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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,920	05/03/2005	Peter Nicholls	P/63610	5427
156 7590 11/17/2008 KIRSCHSTEIN, OTTINGER, ISRAEL & SCHIFFMILLER, P.C. 425 FIFTH AVENUE 5TH FLOOR NEW YORK, NY 10016-2223				
EXAMINER				
SEDIGHIAN, REZA				
ART UNIT		PAPER NUMBER		
2613				
MAIL DATE		DELIVERY MODE		
11/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/506,920

**Applicant(s)**

NICHOLLS ET AL.

**Examiner**

M. R. Sedighian

**Art Unit**

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18, 21-25 and 27-33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 25 and 27-33 is/are allowed.  
6) ☒ Claim(s) 18 and 21-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

1. This communication is responsive to applicant's amendments and remarks of 10/23/08.

The amendments have been entered. Claims 18, 21-25, and 27-33 are now pending.

2. The indicated allowability of claims 18 (previously objected claim 20) and 21-23 are withdrawn in view of new ground of Rejection.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 18 and 21-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claim 18, specification does not describe inhibiting movement of a clock if the error rate is zero. Specification only describes (page 12, lines 3-4) the up/down counter may be inhibited if no errors are counted.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traa (US Patent No: 6,222,660 B1).

Regarding claim 18, as it is understood in view of the above 112 problem, Traa teaches a method of controlling a bias voltage of an avalanche photodiode (col. 1, lines 1-10) in an optical communications system (col. 2, lines 55-60 and fig. 1) including forward error correction (col. 2, lines 55-63), the method comprising the steps of: a) measuring an error rate (32, fig. 1) in an electrical signal converted from an optical signal by the avalanche photodiode (APD, fig. 1) over a plurality of sample periods (col. 2, lines 59-64, col. 4, lines 3-7); and adjusting (18, fig. 1) the bias voltage ( $V_{APD}$ , fig. 1 and col. 2, lines 40-54, 56-67) applied to the avalanche photodiode (APD, fig. 1) to minimize the error rate in the electrical signal by determining whether the error rate is increasing or decreasing with time (col. 3, lines 1-21 and fig. 2); determining the bias voltage by a value of a counter which is incremented or decremented every sample period (col. 2, lines 64-67, note that a value of counter 32 can be incremented or decremented in every sample period based on the number of errors counted), and changing a count direction of the counter if the error rate is increasing with time (col. 3, lines 8-20, note that it is well known that a BER counter, such as BER counter 32 can increment or decrement a count value in different sample periods, and can change the count direction of the counter if the error rate is increasing with time).

Regarding claim 21, Traa teaches determining the sample period by a clock tick of the clock (Clock and Data Recovery, fig. 1, note that BER counter 32 operates based on sample periods of clock ticks of a clock and recovery circuit 30).

Regarding claims 22-23, as to varying an interval between clock ticks of the clock, or the interval between the clock ticks that varies in dependence on the measured error rate, it is well known that bit error rate counter such as the one of Traa can detect and count the errors at different timing intervals or at varying intervals such that an efficient and accurate BER count can be obtained.

7. Claims 25 and 27-33 are allowed over prior art of record.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/M. R. Sedighian/

Primary Examiner, Art Unit 2613